



## SEQUENCE LISTING

<110> WOLFF, Anne M  
APPEL, Karen F  
PETERSEN, Jesper F  
POULSEN, Ulla  
ARNAU, Jose  
JACOBSEN, Mette D

<120> MUCOR RECOMBINANT GENE EXPRESSION

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<140> 10/092,947  
<141> 2002-03-08

<150> US 60/274,650  
<151> 2001-03-12

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<170> PatentIn version 3.2

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 Glu Glu Gln Arg Leu Glu His Arg Asn Asn His His Ser  
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 Glu Asp Phe Ser Gln Gln Gly Ile Gln Trp Glu Thr Thr His Met  
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 Gly His Pro Asn Asp His Gly Ala Leu His Asp Asp Asp Asp Asp Pro  
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Val Lys Cys Arg Glu His Thr Gln Arg Gln Pro Arg Leu Cys Gln		
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Arg Asn Thr Ser Ala Pro Ser Leu Met Glu Asn Thr Ser Arg Lys Arg		
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Phe Tyr Ile Ile Glu Ser Gly Glu Ala Ile Val Leu Lys Glu Glu Asn		
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ctg gcc ctg tta aac gat gct cct cga gct gca acc gta gtt gct cac	1811
Leu Ala Leu Leu Asn Asp Ala Pro Arg Ala Ala Thr Val Val Ala His	
370 375 380	
ggc aga ctc aag tgc gct aca ctg ggc aaa aag gca ttc act cgt ctt	1859
Gly Arg Leu Lys Cys Ala Thr Leu Gly Lys Lys Ala Phe Thr Arg Leu	
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Ser Gln Gln Gln Gly Ile Gln Trp Glu Thr Thr His Met Gly His Pro  
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Asn Asp His Gly Ala Leu His Asp Asp Asp Asp Asp Pro Leu Glu Asp  
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130 135 140

Arg Glu His Gly Thr Gln Arg Gln Pro Arg Leu Cys Gln Gly His His  
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Pro Gln Ile Ser Gly Thr Ser Glu Arg Ile Lys Val Ser Ile Ser Asn  
165 170 175

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Gly Gln Glu Val Val Lys Gln Gly Asp Val Gly Asp Gln Phe Tyr Ile  
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tcg cct tca tct caa aca arn atg gac gat ttt gaa atc aaa cag cca      96
Ser Pro Ser Ser Gln Thr Xaa Met Asp Asp Phe Glu Ile Lys Gln Pro
20          25          30

ata ggt aac aga tgg acg gca tct gca tgt act gtt act gat aga cac      144
Ile Gly Asn Arg Trp Thr Ala Ser Ala Cys Thr Val Thr Asp Arg His
35          40          45

ctg ctt caa ggc tac gga tca tct gcc atg gtt tat agc gca gtg tat      192
Leu Leu Gln Gly Tyr Gly Ser Ser Ala Met Val Tyr Ser Ala Val Tyr
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ata cct cac aac aaa cgg gtc gcc atc aag gtg att gat ctg gac atg      240
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Phe Glu Arg Asn Gln Ile Asp Glu Leu Arg Val
85          90

ggattccctt cttattgaca aaacgtatat atng aga gag aca gcc ttg atg gct      348
Arg Glu Thr Ala Leu Met Ala
95

ctg tcc aag cat cca cat gtg ttg cga gtc tac ggc tca ttt gtc cac      396
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gga tcc aag ctg tac att gtc act cct tat atg gca gta gga tcc tgt      444
Gly Ser Lys Leu Tyr Ile Val Thr Pro Tyr Met Ala Val Gly Ser Cys
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ctc gat atc atg aag ttg agt ttc ccc gac ggc cta gac gag att agc      492
Leu Asp Ile Met Lys Leu Ser Phe Pro Asp Gly Leu Asp Glu Ile Ser
135         140         145

att gct act atc cta aaa cag gca ctg gaa gga cta gcc tat ttg cac      540
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aaa aat ggc cac atc cat cga gac gta aag gca ggc aac ctg ctg atg      588
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165         170         175

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Ile Pro His Asn Lys Arg Val Ala Ile Lys Val Ile Asp Leu Asp Met  
 65 70 75 80

Phe Glu Arg Asn Gln Ile Asp Glu Leu Arg Val Arg Glu Thr Ala Leu  
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Met Ala Leu Ser Lys His Pro His Val Leu Arg Val Tyr Gly Ser Phe  
 100 105 110

Val His Gly Ser Lys Leu Tyr Ile Val Thr Pro Tyr Met Ala Val Gly  
 115 120 125

Ser Cys Leu Asp Ile Met Lys Leu Ser Phe Pro Asp Gly Leu Asp Glu  
 130 135 140

Ile Ser Ile Ala Thr Ile Leu Lys Gln Ala Leu Glu Gly Leu Ala Tyr  
 145 150 155 160

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Val Leu His			
45			
cga gat ctc aag cca ggt aaa tta cga ata aac ggc ata aca cag atc	246		
Arg Asp Leu Lys Pro Gly Lys Leu Arg Ile Asn Gly Ile Thr Gln Ile			
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Glu Asn Asp Glu His Asn Val Gly Phe Met Thr Glu Tyr			
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Ile Cys Arg Gly Leu Lys Tyr Ile His Ser Ala Asn Val Leu His Arg			
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Asp Leu Lys Pro Gly Lys Leu Arg Ile Asn Gly Ile Thr Gln Ile Thr			
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Glu Pro Lys Ile Cys Asp Phe Gly Leu Ala Arg Gly Tyr Ser Glu Asn  
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 Ala Arg Leu Glu Glu Pro Lys Ser Glu Leu Leu Asp Met Leu Tyr Lys  
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 aac aat tgc atc cgc aca caa aaa caa aaa gta ttt ttc tgg ttt 384  
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 35 40 45

Asn Asp Leu Phe Phe Ile Thr Gly Thr Asp Ile Val Arg Ser Leu Thr  
 50 55 60

Phe Arg Phe His Ala Phe Gly Arg Pro Val Thr Asn Ala Lys Lys Phe  
 65 70 75 80

Glu Glu Gly Ile Phe Ser Asp Leu Arg Asn Leu Lys Pro Gly His Asp  
 85 90 95

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 Met  
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 gct gat ttc aca gat tct ctc atc aag aac att ggc gtt cac tca tca 584  
 Ala Asp Phe Thr Asp Ser Leu Ile Lys Asn Ile Gly Val His Ser Ser  
 5 10 15  
 tct cct gtc atg aca tct gtc aat atg ggt caa ttg ggt gaa aag ctt 632  
 Ser Pro Val Met Thr Ser Val Asn Met Gly Gln Leu Gly Glu Lys Leu  
 20 25 30  
 cgt caa gct cgt aca aca aca ctt gct tcc tta tct caa gct ctt tca 680  
 Arg Gln Ala Arg Thr Thr Leu Ala Ser Leu Ser Gln Ala Leu Ser  
 35 40 45  
 aag aag ccc gaa gct gct gct gct gcc act gcc ccc aac gct gtt 728  
 Lys Lys Pro Glu Ala Ala Ala Ala Ala Thr Ala Pro Asn Ala Val  
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 Lys Ala Thr Ser Gln Leu Glu Ile Asn Val Val Glu Ala Arg Asn Leu  
 85 90 95

acc att gct gat gcg cgc aaa gcc gac acc tac tgt att gtt cat tac Thr Ile Ala Asp Ala Arg Lys Ala Asp Thr Tyr Cys Ile Val His Tyr 100 105 110	872
gaa ggc aac acc aca tca acg ctt gat aaa gta gat gat ggc atc ttg Glu Gly Asn Thr Thr Ser Thr Leu Asp Lys Val Asp Asp Gly Ile Leu 115 120 125	920
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aag gca ttt gaa atc atg atg agc gct agt tct ccc aag tgg atg cat Lys Ala Phe Glu Ile Met Met Ser Ala Ser Ser Pro Lys Trp Met His 150 155 160	1016
cgt gtc aac ttg taagttgcta tccagaatat gtcaaaaagg gctctgcgct Arg Val Asn Leu 165	1068
aaccatgtta ctatagt gat gta act gct ggt aac aag gag atc act gtg Asp Val Thr Ala Gly Asn Lys Glu Ile Thr Val 170 175	1118
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ttg ggc atg tct agc att gtt ccc aac ttg gtc aac aag aag acg gtc Leu Gly Met Ser Ser Ile Val Pro Asn Leu Val Asn Lys Thr Val 195 200 205	1214
gag ctg atc ttt cct ctt cac ggc cgt cct gac gat gat caa gaa gtt Glu Leu Ile Phe Pro Leu His Gly Arg Pro Asp Asp Gln Glu Val 210 215 220	1262
act ggt gat gtc cgt ctt caa gtt act ttt atc gac cct aaa aag Thr Gly Asp Val Arg Leu Gln Val Thr Phe Ile Asp Pro Lys Lys 225 230 235	1307
gtaattttat atgagtatga ttcttgacag ctgatgtctg acacttctaa aaccctattc	1367
aag gct aat ctt aag cca gag gat ttc cgc att gtg cgt atg att ggt Ala Asn Leu Lys Pro Glu Asp Phe Arg Ile Val Arg Met Ile Gly 240 245 250	1415
caa ggc tca gtg ggt aag gtg tat gag gtg atc aag cgt gat tct ggc Gln Gly Ser Val Gly Lys Val Tyr Glu Val Ile Lys Arg Asp Ser Gly 255 260 265 270	1463
cgt acc tat gcc atg aag gtg ctc tct aag cgt ctc ttg ctc gcc gag Arg Thr Tyr Ala Met Lys Val Leu Ser Lys Arg Leu Leu Ala Glu 275 280 285	1511
aat gaa gtc gat act gcc ttc aac gag cgc aat gtg ctg gtt cag tct Asn Glu Val Asp Thr Ala Phe Asn Glu Arg Asn Val Leu Val Gln Ser 290 295 300	1559

ctc tca agc cct ttc att gcc aat ctc aag tac agt ttc caa aca aca	305	310	315	1607
Leu Ser Ser Pro Phe Ile Ala Asn Leu Lys Tyr Ser Phe Gln Thr Thr				
aac cat ctc ttc ttg gtt atg gat tac ttt ccg ggt ggc gaa ttg ttt	320	325	330	1655
Asn His Leu Phe Leu Val Met Asp Tyr Phe Pro Gly Gly Glu Leu Phe				
gat ttc ctg gag cgt gag cgt tgt ttg agc gag aag cgt tgc caa ttc	335	340	345	1703
Asp Phe Leu Glu Arg Glu Arg Cys Leu Ser Glu Lys Arg Cys Gln Phe				
ttt gct gcc gag att gtg tgt gcc ttt gac aac atc cat gct cgc aac	355	360	365	1751
Phe Ala Ala Glu Ile Val Cys Ala Phe Asp Asn Ile His Ala Arg Asn				
att gtc tat cgt aac ctg aag cca gag agc atc ttg ctg gat gca cat	370	375	380	1799
Ile Val Tyr Arg Asn Leu Lys Pro Glu Ser Ile Leu Leu Asp Ala His				
gga cac att gcc ttg aca gat ttc ggc tta tgc aag caa ttg aag aac	385	390	395	1847
Gly His Ile Ala Leu Thr Asp Phe Gly Leu Cys Lys Gln Leu Lys Asn				
aag atg gat ttg att caa ggt gtg cct caa gtc att aca caa gaa tac	400	405	410	1895
Lys Met Asp Leu Ile Gln Gly Val Pro Gln Val Ile Thr Gln Glu Tyr				
ctc gcc cct gaa atg gta atg caa aag ccc tat ggc atg gct gcc gac	415	420	425	1943
Leu Ala Pro Glu Met Val Met Gln Lys Pro Tyr Gly Met Ala Ala Asp				
tgg tgg agt ctc ggt gtt ttg atg ttt gag ctg ttg act gga tct cct	435	440	445	1991
Trp Trp Ser Leu Gly Val Leu Met Phe Glu Leu Leu Thr Gly Ser Pro				
cct ttc cat tct gtt gaa caa ggt gaa ttg ttt aga caa atc ctg gaa	450	455	460	2039
Pro Phe His Ser Val Glu Gln Gly Glu Leu Phe Arg Gln Ile Leu Glu				
gct ccc att aaa ttc cct gct ggg ggc tgc att aca gag gaa gcc aag	465	470	475	2087
Ala Pro Ile Lys Phe Pro Ala Gly Gly Cys Ile Thr Glu Glu Ala Lys				
gat ttc atc tgc caa ctg ctg gag cgt gat cct gcc aag cgt ctg ggc	480	485	490	2135
Asp Phe Ile Cys Gln Leu Leu Glu Arg Asp Pro Ala Lys Arg Leu Gly				
tcc cat ggt gat gtt gct cag gtc aaa gca cat cca ttc ttt aag gat	495	500	505	2183
Ser His Gly Asp Val Ala Gln Val Lys Ala His Pro Phe Phe Lys Asp				
ctc aac tgg gat gtc gtt tac aag aag caa atg cag ctt ccc ttt gtg	515	520	525	2231
Leu Asn Trp Asp Val Val Tyr Lys Lys Gln Met Gln Leu Pro Phe Val				
ccc gag gta gaa gag cag ctc cgc gaa gaa gcc att gct gct gct				2279

Pro Glu Val Glu Glu Gln Leu Arg Glu Glu Ala Ile Ala Ala Ala Ala		
530	535	540
gcc att agc att cct gtg acc aac agc aag acc gag tct acc aat gcc		2327
Ala Ile Ser Ile Pro Val Thr Asn Ser Lys Thr Glu Ser Thr Asn Ala		
545	550	555
aat gtg atg cct gtg gct gat caa tcc aaa ttc aag gga ttt agc tat		2375
Asn Val Met Pro Val Ala Asp Gln Ser Lys Phe Lys Gly Phe Ser Tyr		
560	565	570
att cgt gaa gat gtc atg gca aag aag ggc gag cat cgt ctg ggt gtc		2423
Ile Arg Glu Asp Val Met Ala Lys Lys Gly Glu His Arg Leu Gly Val		
575	580	585
aat cct gag gat gaa gat ccc gaa gtt gat ttc tgg ttt aga cag		2468
Asn Pro Glu Asp Glu Asp Pro Glu Val Asp Phe Trp Phe Arg Gln		
595	600	605
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Leu Arg Gln Ala Arg Thr Thr Thr Leu Ala Ser Leu Ser Gln Ala Leu		
35	40	45
Ser Lys Lys Pro Glu Ala Ala Ala Ala Ala Ala Thr Ala Pro Asn Ala		
50	55	60
Val Asn Glu Ser Thr Thr Pro Thr Thr Met Gln Leu Pro Ala Ser		
65	70	75
80		
Glu Lys Ala Thr Ser Gln Leu Glu Ile Asn Val Val Glu Ala Arg Asn		
85	90	95
Leu Thr Ile Ala Asp Ala Arg Lys Ala Asp Thr Tyr Cys Ile Val His		
100	105	110

Tyr Glu Gly Asn Thr Thr Ser Thr Leu Asp Lys Val Asp Asp Gly Ile  
115 120 125

Leu Pro Ser Thr Pro Leu Val Ile Lys Ser Gln Val Ala Ser Gly Ala  
130 135 140

Phe Lys Ala Phe Glu Ile Met Met Ser Ala Ser Ser Pro Lys Trp Met  
145 150 155 160

His Arg Val Asn Leu Asp Val Thr Ala Gly Asn Lys Glu Ile Thr Val  
165 170 175

Phe Val Tyr Asp Arg Gly Asn Lys Leu Pro Asn Gly Glu Asp Arg Phe  
180 185 190

Leu Gly Met Ser Ser Ile Val Pro Asn Leu Val Asn Lys Lys Thr Val  
195 200 205

Glu Leu Ile Phe Pro Leu His Gly Arg Pro Asp Asp Asp Gln Glu Val  
210 215 220

Thr Gly Asp Val Arg Leu Gln Val Thr Phe Ile Asp Pro Lys Lys Ala  
225 230 235 240

Asn Leu Lys Pro Glu Asp Phe Arg Ile Val Arg Met Ile Gly Gln Gly  
245 250 255

Ser Val Gly Lys Val Tyr Glu Val Ile Lys Arg Asp Ser Gly Arg Thr  
260 265 270

Tyr Ala Met Lys Val Leu Ser Lys Arg Leu Leu Leu Ala Glu Asn Glu  
275 280 285

Val Asp Thr Ala Phe Asn Glu Arg Asn Val Leu Val Gln Ser Leu Ser  
290 295 300

Ser Pro Phe Ile Ala Asn Leu Lys Tyr Ser Phe Gln Thr Thr Asn His  
305 310 315 320

Leu Phe Leu Val Met Asp Tyr Phe Pro Gly Gly Glu Leu Phe Asp Phe  
325 330 335

Leu Glu Arg Glu Arg Cys Leu Ser Glu Lys Arg Cys Gln Phe Phe Ala

340

345

350

Ala Glu Ile Val Cys Ala Phe Asp Asn Ile His Ala Arg Asn Ile Val  
355 360 365

Tyr Arg Asn Leu Lys Pro Glu Ser Ile Leu Leu Asp Ala His Gly His  
 370 375 380

Ile Ala Leu Thr Asp Phe Gly Leu Cys Lys Gln Leu Lys Asn Lys Met  
 385 390 395 400

Asp Leu Ile Gln Gly Val Pro Gln Val Ile Thr Gln Glu Tyr Leu Ala  
405 410 415

Pro Glu Met Val Met Gln Lys Pro Tyr Gly Met Ala Ala Asp Trp Trp  
420 425 430

Ser Leu Gly Val Leu Met Phe Glu Leu Leu Thr Gly Ser Pro Pro Pro Phe  
435 440 445

His Ser Val Glu Gln Gly Glu Leu Phe Arg Gln Ile Leu Glu Ala Pro  
450 455 460

Ile Lys Phe Pro Ala Gly Gly Cys Ile Thr Glu Glu Ala Lys Asp Phe  
465 470 475 480

Ile Cys Gln Leu Leu Glu Arg Asp Pro Ala Lys Arg Leu Gly Ser His  
485 490 495

Gly Asp Val Ala Gln Val Lys Ala His Pro Phe Phe Lys Asp Leu Asn  
500 505 510

Trp Asp Val Val Tyr Lys Lys Gln Met Gln Leu Pro Phe Val Pro Glu  
515 520 525

Val Glu Glu Gln Leu Arg Glu Glu Ala Ile Ala Ala Ala Ala Ala Ala Ala Ile  
530 535 540

Met Pro Val Ala Asp Gln Ser Lys Phe Lys Gly Phe Ser Tyr Ile Arg  
565 570 575

Glu Asp Val Met Ala Lys Lys Gly Glu His Arg Leu Gly Val Asn Pro  
 580 585 590

Glu Asp Glu Asp Pro Glu Val Asp Phe Trp Phe Arg Gln  
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 caacaagagc cattaacgtg gacagatttgc ccctttgtat agtactcaaa tttagtcaagt 180  
 gatagactca cacactcaca ctcacacaaa cctcttagatg aagatccctc tctcatgatg 240  
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 tctgcctcaa atgctacaca caccgcattt actacacata ctactaatac acaaattata 360  
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 aagttcaaaa tggaaattccc acaagaattt gtcaatcca tcaagctatc acccttaaca 540  
 agtcgacctg gctgggcaga ttggagatga atgtactatc tactcaacac atcttgttct 600  
 acatggagac gcccgaacaa agctggattt aatgccgcga ctacactgaa gacaaggcagg 660  
 ctccatcat cagcctgcac caactagacg gccctgcact tgcattaaag gcagaacttag 720  
 aatcccttc taaggaaaac gactatctat ctaccatcat tcattaattt gcatatcatt 780  
 gattggtagcg cctgattaaa attgtgtat ataaaatacc atgttgacct ctccccctcc 840  
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cttgggtcgt	cttggtgca	taaattggaa	aaactgggtt	ttccgttcat	aaggcccatt	180
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cgacttgtat	cacaacaagg	ttgcttatga	aatcaacaga	gtcacatccc	gtctaaaacc	300
cagtttggat	cggtttctt	cgcttctatc	tgtgggtgcg	aggatttgt	ataaaaagga	360
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24

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36

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42

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21

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24

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21

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<223> n is a, c, g or t

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<222> (16)..(16)

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24

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tattatctgt ttcatgtaaa aaaaaactct gttgtggtagc aaacattagt gtgaaccacg 180
cgcagccata ccactagtca aaataatgct ctactgcaaa aaatgacggt tgacgaataa 240
tgcaacgtaa agatggttta gaaacccttg atatccaaat tacacgtgta gcagccttcg 300
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catcctcatac acactttatt caccaaggaa agaagtgaaa tggcatttc tatcggtcaa 420
catctacagg gacatctgtg agatacatct gattgctcga caagcggaca atagatgaca 480
cggttatcaat gctatcactc taaaatgtca tgtctgactg agtccattgc aatcatcact 540
ccatccgaca tcaggtcaca atttatgctt ctatccaa atggatccga atccgattca 600
aacaagatta attctccctc aaaataccca tgaagtgtga gacattgcga aatgttataat 660

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tatattttat aaattctaac a	atg gtt gtt caa gtc ggt att aac ggt ttc	Met Val Val Gln Val Gly Ile Asn Gly Phe			771
1	5	10			
ggt cgt att ggt cgt att gtc ctt cgt gct act gag tcc aac aag gat					819
Gly Arg Ile Gly Arg Ile Val Leu Arg Ala Thr Glu Ser Asn Lys Asp					
15	20	25			
gtc caa gtt gtt gct atc aac gat ccc ttc att cct ctc gac tat atg					867
Val Gln Val Val Ala Ile Asn Asp Pro Phe Ile Pro Leu Asp Tyr Met					
30	35	40			
gtc tac atg ttg aag tac gat act gtt cac ggt cgt ttc gat ggt tcc					915
Val Tyr Met Leu Lys Tyr Asp Thr Val His Gly Arg Phe Asp Gly Ser					
45	50	55			
gtc gag gcc aag gat ggt aag ctc gtt gtc aac ggt cat gct atc gcc					963
Val Glu Ala Lys Asp Gly Lys Leu Val Val Asn Gly His Ala Ile Ala					
60	65	70			
gtc tct gct gag cgc gat cct acc tct att cct tgg ggt tcc gct ggt					1011
Val Ser Ala Glu Arg Asp Pro Thr Ser Ile Pro Trp Gly Ser Ala Gly					
75	80	85	90		
gct gac tac gtt gtc gag tcc act ggg taaatatact gaaatgcatt					1058
Ala Asp Tyr Val Val Glu Ser Thr Gly					
95					
atatactcgaa tatctaatact aacattgacg taatagt gtc ttc act acc act gaa					1113
Val Phe Thr Thr Thr Glu					
100	105				
gct gcc tct gct cat ctt aag ggt ggt gcc aag aag gtc atc atc tct					1161
Ala Ala Ser Ala His Leu Lys Gly Gly Ala Lys Lys Val Ile Ile Ser					
110	115	120			
gct ccc tct gct gat gcc ccc atg ttc gtc tgt ggt gtc aac ctc gaa					1209
Ala Pro Ser Ala Asp Ala Pro Met Phe Val Cys Gly Val Asn Leu Glu					
125	130	135			
gct tac aag tct gaa tac aag gtt atc tcc aac gcc tct tgt acc acc					1257
Ala Tyr Lys Ser Glu Tyr Lys Val Ile Ser Asn Ala Ser Cys Thr Thr					
140	145	150			
aac tgt ttg gct ccc ctc gcc aag gtc att aac gat aac ttt ggt atc					1305
Asn Cys Leu Ala Pro Leu Ala Lys Val Ile Asn Asp Asn Phe Gly Ile					
155	160	165			
gct gat ggt ttg atg acc act gtc cac gcc acc act gcc acc caa aag					1353
Ala Asp Gly Leu Met Thr Thr Val His Ala Thr Thr Ala Thr Gln Lys					
170	175	180	185		
act gtc gat ggt ccc tct cac aag gat tgg aga ggt ggt cgt gcc gct					1401
Thr Val Asp Gly Pro Ser His Lys Asp Trp Arg Gly Gly Arg Ala Ala					
190	195	200			



gttgggggg ttgtcgctgc catcgcatcg ccgttattgt catcg 2471

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<400> 25

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Val Leu Arg Ala Thr Glu Ser Asn Lys Asp Val Gln Val Val Ala Ile  
 20 25 30

Asn Asp Pro Phe Ile Pro Leu Asp Tyr Met Val Tyr Met Leu Lys Tyr  
 35 40 45

Asp Thr Val His Gly Arg Phe Asp Gly Ser Val Glu Ala Lys Asp Gly  
 50 55 60

Lys Leu Val Val Asn Gly His Ala Ile Ala Val Ser Ala Glu Arg Asp  
 65 70 75 80

Pro Thr Ser Ile Pro Trp Gly Ser Ala Gly Ala Asp Tyr Val Val Glu  
 85 90 95

Ser Thr Gly Val Phe Thr Thr Glu Ala Ala Ser Ala His Leu Lys  
 100 105 110

Gly Gly Ala Lys Lys Val Ile Ile Ser Ala Pro Ser Ala Asp Ala Pro  
 115 120 125

Met Phe Val Cys Gly Val Asn Leu Glu Ala Tyr Lys Ser Glu Tyr Lys  
 130 135 140

Val Ile Ser Asn Ala Ser Cys Thr Thr Asn Cys Leu Ala Pro Leu Ala  
 145 150 155 160

Lys Val Ile Asn Asp Asn Phe Gly Ile Ala Asp Gly Leu Met Thr Thr  
 165 170 175

Val His Ala Thr Thr Ala Thr Gln Lys Thr Val Asp Gly Pro Ser His  
 180 185 190

Lys Asp Trp Arg Gly Gly Arg Ala Ala Ala Ala Asn Ile Ile Pro Ser  
 195 200 205

Ser Thr Gly Ala Ala Lys Ala Val Gly Lys Val Ile Pro Ala Leu Asn  
 210 215 220

Gly Lys Leu Thr Gly Met Ala Phe Arg Val Pro Thr Pro Asp Val Ser  
 225 230 235 240

Val Val Asp Leu Thr Val Asn Leu Ser Lys Gly Ala Ser Tyr Asp Glu  
 245 250 255

Ile Lys Gln Ala Ile Lys Lys Ala Ser Glu Thr Thr Met Lys Gly Val  
 260 265 270

Leu Gly Tyr Thr Ser Asp Ala Val Val Ser Ser Asp Phe Val Gly Glu  
 275 280 285

Val Trp Ser Ser Val Phe Asp Ala Ala Ala Gly Ile Gln Leu Thr Pro  
 290 295 300

Thr Phe Val Lys Leu Ile Ala Trp Tyr Asp Asn Glu Tyr Gly Tyr Ser  
 305 310 315 320

Asn Arg Val Val Asp Leu Leu Val His Ala Ala Lys Val Asp Gly Ala  
 325 330 335

Leu

<210> 26  
 <211> 33  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> oligonucleotide primer

<220>  
 <221> misc\_feature  
 <222> (12)..(12)  
 <223> n is a, c, g or t

<220>  
 <221> misc\_feature  
 <222> (15)..(15)  
 <223> n is a, c, g or t

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<220>
<221> misc_feature
<222> (18)..(18)
<223> n is a, c, g or t

<220>
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<222> (21)..(21)
<223> n is a, c, g or t

<220>
<221> misc_feature
<222> (24)..(24)
<223> n is a, c, g or t

<220>
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<222> (27)..(27)
<223> n is a, c, g or t

<400> 26
aarttyttyy tngcnacngc nccngtnaay tgg
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33

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<210> 27
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide primer

<220>
<221> misc_feature
<222> (3)..(3)
<223> n is a, c, g or t

<220>
<221> misc_feature
<222> (6)..(6)
<223> n is a, c, g or t

<220>
<221> misc_feature
<222> (9)..(9)
<223> n is a, c, g or t

<220>
<221> misc_feature
<222> (12)..(12)
<223> n is a, c, g or t

<220>
<221> misc_feature
<222> (18)..(18)
<223> n is a, c, g or t
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<400> 27  
ccnggnmgnng tnaayytnat hgg

23

<210> 28  
<211> 20  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> oligonucleotide primer

<220>  
<221> misc\_feature  
<222> (3)..(3)  
<223> n is a, c, g or t  
  
<220>  
<221> misc\_feature  
<222> (9)..(9)  
<223> n is a, c, g or t

<220>  
<221> misc\_feature  
<222> (12)..(12)  
<223> n is a, c, g or t

<220>  
<221> misc\_feature  
<222> (15)..(15)  
<223> n is a, c, g or t

<220>  
<221> misc\_feature  
<222> (18)..(18)  
<223> n is a, c, g or t

<400> 28  
ccnccccanc cngcnccngt

20

<210> 29  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide primer

<220>  
<221> misc\_feature  
<222> (9)..(9)  
<223> n is a, c, g or t  
  
<220>

<221> misc\_feature  
 <222> (18)..(18)  
 <223> n is a, c, g or t

<400> 29  
 garcayggna thcarccnga ygg

23

<210> 30  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> oligonucleotide primer

<220>  
 <221> misc\_feature  
 <222> (4)..(4)  
 <223> n is a, c, g or t

<220>  
 <221> misc\_feature  
 <222> (10)..(10)  
 <223> n is a, c, g or t

<220>  
 <221> misc\_feature  
 <222> (13)..(13)  
 <223> n is a, c, g or t

<400> 30  
 catnccytcn ccnacrtacc a

21

<210> 31  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> oligonucleotide primer

<400> 31  
 catcccttgtt ggactcagta gc

22

<210> 32  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> oligonucleotide primer

<400> 32  
 cttcagggtt agagagagaa gc

22

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<210> 33
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide primer

<400> 33
ccttggggtt ttcgagggag g 21

<210> 34
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide primer

<400> 34
actgcggagc tcattatgtat cactgacgaa catccg 36

<210> 35
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide primer

<400> 35
gcgcatgctt atgattgctg gttaatgac 29

<210> 36
<211> 427
<212> PRT
<213> Mucor circinelloides

<400> 36

Met Ile Thr Asp Glu His Pro Phe Glu Phe Ala Pro Gln Gln Asp Glu
1 5 10 15

Tyr Thr Gln Leu Leu Thr Glu Leu His Asn Glu Tyr Cys Ala Glu Gln
20 25 30

Pro Leu Asp Val Leu Gln Phe Cys Ser Asn Phe Phe Ile Arg Lys Leu
35 40 45

Glu Glu Gln Arg Leu Glu His Arg Asn Asn His His Ser Arg Asn Asn

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50	55	60
Leu Phe Asp Thr Asn Asp Thr Ser Asn Asp Leu His Pro Leu Cys Glu		
65	70	75
Gln Pro Gln Glu Asp Phe Ser Gln Gln Gln Gly Ile Gln Trp Glu Thr		
85	90	95
Thr His Met Gly His Pro Asn Asp His Gly Ala Leu His Asp Asp Asp		
100	105	110
Asp Asp Pro Leu Glu Asp Glu Asp Asp Glu Glu Phe Asp Lys Phe Ser		
115	120	125
Thr Glu Pro Leu Pro Ser Leu Pro Pro Thr Asn Tyr Asn Arg Gly Arg		
130	135	140
Arg Thr Ser Val Lys Cys Arg Glu His Gly Thr Gln Arg Gln Pro Arg		
145	150	155
Leu Cys Gln Gly His His Pro Gln Ile Ser Gly Thr Ser Glu Arg Ile		
165	170	175
Lys Val Ser Ile Ser Asn Asn Phe Leu Phe Arg Asn Leu Asp Glu Glu		
180	185	190
Gln Tyr Leu Asp Val Val Asn Ala Met Ser Glu Lys Arg Val Val Lys		
195	200	205
Gly Thr Thr Val Ile Glu Gln Gly Ser Val Gly Asp Phe Phe Tyr Val		
210	215	220
Val Glu Ser Gly Thr Leu Asp Cys Phe Ile Gly Gln Asn Lys Val Thr		
225	230	235
Asn Tyr Glu Ala Gly Gly Ser Phe Gly Glu Leu Ala Leu Met Tyr Asn		
245	250	255
Ala Pro Arg Ala Ala Thr Ile Ile Thr Thr Ser Asp Ser Val Leu Trp		
260	265	270
Ala Leu Asp Arg Asn Thr Ser Ala Pro Ser Leu Met Glu Asn Thr Ser		
275	280	285

Arg Lys Arg Arg Met Tyr Glu Tyr Phe Leu Ser Glu Val Val Leu Leu  
 290 295 300

Lys Ser Leu Glu Ser Tyr Glu Gln His Lys Ile Ala Asp Ala Leu Glu  
 305 310 315 320

Ser Val Tyr Phe Glu Asp Gly Gln Glu Val Val Lys Gln Gly Asp Val  
 325 330 335

Gly Asp Gln Phe Tyr Ile Ile Glu Ser Gly Glu Ala Ile Val Leu Lys  
 340 345 350

Glu Glu Asn Gly Val Gln Gln Val Asn Gln Leu Glu Arg Gly Ser  
 355 360 365

Tyr Phe Gly Glu Leu Ala Leu Leu Asn Asp Ala Pro Arg Ala Ala Thr  
 370 375 380

Val Val Ala His Gly Arg Leu Lys Cys Ala Thr Leu Gly Lys Lys Ala  
 385 390 395 400

Phe Thr Arg Leu Leu Gly Pro Val Leu Asp Ile Leu Lys Arg Asn Ser  
 405 410 415

Glu Asn Tyr His Ala Val Ile Asn Gln Gln Ser  
 420 425

<210> 37  
 <211> 411  
 <212> PRT  
 <213> Aspergillus niger

<400> 37

Met Ala Glu Ser Ala Phe Pro Ser Ala Gln Gln Pro Leu Arg Val Gly  
 1 5 10 15

Thr Lys Asp Asp Lys Ala Ala Ala Phe Gln Lys Ile Ser Glu Glu Asp  
 20 25 30

Glu Tyr Glu Val Thr Ser Pro Thr Asp Pro Thr Phe Arg Ser Ala Asn  
 35 40 45

Ala Ala Ala Ala Ser Ser Ser Thr Gly Ser Pro Phe Phe Gly Gly Ser  
 50 55 60

Tyr Gly Glu Asn Ser Gly Pro Ile Arg Phe Asn Arg Ser Pro Phe Asp  
 65 70 75 80

Asn Gly Pro Arg Glu Glu Asp Glu Glu Gly Ala Asp Glu Phe Pro Pro  
 85 90 95

Glu Asp Ile Arg Pro Thr Gly Ala Ala Asn Gln Gly Phe Pro Asn Asn  
 100 105 110

Tyr Ala Leu Gly Arg Arg Thr Ser Val Ser Ala Glu Ser Leu Asn Pro  
 115 120 125

Thr Ser Ala Gly Ser Asp Ser Trp Thr Pro Pro Tyr His Glu Lys Thr  
 130 135 140

Glu Glu Gln Leu Ser Arg Leu Lys Thr Ala Val Ser Ser Asn Phe Leu  
 145 150 155 160

Phe Ser His Leu Asp Asp Asp Gln Phe Lys Ser Val Leu Asp Ala Leu  
 165 170 175

Val Glu Lys Pro Ile Pro Ala Lys Gly Ile Lys Val Ile Ser Gln Gly  
 180 185 190

Asp Ala Gly Asp Tyr Phe Tyr Ile Val Glu Asn Gly His Phe Asp Phe  
 195 200 205

Met Ile His Pro Ser Gly Ser Val Gln Pro Gly Pro Asp Gly Met Gly  
 210 215 220

Asn Lys Val Gly Ser Val Gly Pro Gly Gly Ser Phe Gly Glu Leu Ala  
 225 230 235 240

Leu Met Tyr Asn Ala Pro Arg Ala Ala Thr Val Val Ser Val Asp Pro  
 245 250 255

Lys Ser Thr Leu Trp Ala Leu Asp Arg Ile Thr Phe Arg Arg Ile Leu  
 260 265 270

Met Asp Ser Ala Phe Gln Arg Arg Arg Met Tyr Glu Ala Phe Leu Glu  
 275 280 285

Glu Val Pro Leu Leu Ser Ser Leu Lys Pro Tyr Glu Arg Ala Lys Ile  
 290 295 300

Ala Asp Ala Leu Asp Ala Ile Lys Tyr Pro Ala Gly Ser Thr Ile Ile  
 305 310 315 320

Ala Glu Gly Asp Pro Gly Asp Ala Phe Tyr Leu Leu Glu Ser Gly Glu  
 325 330 335

Ala Asp Ala Phe Lys Asn Gly Val Glu Gly Pro Val Lys Ser Tyr Lys  
 340 345 350

Arg Gly Asp Tyr Phe Gly Glu Leu Ala Leu Leu Asp Asp Lys Pro Arg  
 355 360 365

Ala Ala Ser Ile Val Ala Lys Thr Asp Val Lys Val Ala Lys Leu Gly  
 370 375 380

Arg Asp Gly Phe Lys Arg Leu Leu Gly Pro Val Glu Asp Ile Met Arg  
 385 390 395 400

Arg Ala Glu Tyr Glu Ser Asn Pro Val Pro Ala  
 405 410

<210> 38  
 <211> 403  
 <212> PRT  
 <213> Blastocadiella emersonii

<400> 38

Met Ala Asp Tyr Thr Ile Pro Ser Glu Leu Pro Pro Ile Leu Lys Asp  
 1 5 10 15

Leu Ser Arg Glu Val Leu Arg His Gln Pro Ala Asp Leu Val Gln Phe  
 20 25 30

Cys His Asp Tyr Phe Ala Lys Leu Leu Ala Gln Gln Arg Lys Val Leu  
 35 40 45

Met Asp Ser Ala Asp Pro Ala Thr Lys Ala Thr Ile Ala Ser Thr Ala  
 50 55 60

Gly Pro Ala Val Asp Ala Asp Glu Ala Ala Arg Ala Asn Ser Tyr Ala  
 65 70 75 80

Tyr Ser Thr Asp Asp Gly Phe Gly Thr Glu Asp Asp Asp Asp Asp Asp  
 85 90 95

Asp Asp Glu Asp Asp Glu Ala Ala Ile Pro Pro Pro Val Val Asn Arg  
 100 105 110

Gly Arg Arg Thr Ser Val Ser Ala Glu Ser Met Ala Pro Thr Ala His  
 115 120 125

Asp Val Asp Ala Val Lys Thr Val Ile Pro Lys Ser Asp Glu Gln Arg  
 130 135 140

Ala Arg Ile Gln Ala Ser Ile Gly Asn Asn Phe Leu Phe Arg Asn Leu  
 145 150 155 160

Asp Glu Asp Gln Tyr Thr Asp Val Val Asn Ala Met Ala Glu Lys Lys  
 165 170 175

Val Ala Ala Gly Glu Val Val Ile Arg Gln Gly Gly Val Gly Asp Tyr  
 180 185 190

Phe Tyr Val Val Glu Thr Gly Ala Leu Asp Val Phe Val Asn Arg Asn  
 195 200 205

Gly Asn Gly Asp Val Lys Val Thr Asp Tyr Ser Ala Gly Gly Ser Phe  
 210 215 220

Gly Glu Leu Ala Leu Met Tyr Asn Ala Pro Arg Ala Ala Thr Val Val  
 225 230 235 240

Ala Thr Ala Glu Ser Val Leu Trp Ala Leu Asp Arg Val Thr Phe Arg  
 245 250 255

Arg Ile Leu Met Asp His Thr Ser Arg Lys Arg Arg Met Tyr Glu Ala  
 260 265 270

Phe Leu Glu Glu Val Pro Leu Leu Ser Ser Leu Glu Pro Tyr Glu Arg  
 275 280 285

His Lys Ile Ala Asp Ala Leu Glu Ser Val Ala Tyr Ala Asp Gly Asp  
 290 295 300

Val Val Ile Arg Gln Gly Asp Val Gly Glu Asn Phe Tyr Ile Ile Glu

305

310

315

320

Ala Gly Asp Ala Glu Val Ile Lys Ile Asp Glu Asn Gly Glu Glu His  
 325 330 335

His Phe Arg Pro Leu His Lys Gly Asn Tyr Phe Gly Glu Leu Ala Leu  
 340 345 350

Leu Ser Asp Lys Pro Arg Val Ala Thr Ile Arg Ala Lys Gly Lys Leu  
 355 360 365

Lys Cys Ala Lys Leu Gly Lys Lys Ala Phe Thr Arg Leu Leu Gly Pro  
 370 375 380

Leu Ala Asp Ile Met Gln Arg Asn Thr Gln Asp Tyr Glu Lys Tyr Pro  
 385 390 395 400

Gly Glu His

<210> 39  
 <211> 459  
 <212> PRT  
 <213> Candida albicans

<400> 39

Met Ser Asn Pro Gln Gln Gln Phe Ile Ser Asp Glu Leu Ser Gln Leu  
 1 5 10 15

Gln Lys Glu Ile Ile Ser Lys Asn Pro Gln Asp Val Leu Gln Phe Cys  
 20 25 30

Ala Asn Tyr Phe Asn Thr Lys Leu Gln Ala Gln Arg Ser Glu Leu Trp  
 35 40 45

Ser Gln Gln Ala Lys Ala Glu Ala Ala Gly Ile Asp Leu Phe Pro Ser  
 50 55 60

Val Asp His Val Asn Val Asn Ser Ser Gly Val Ser Ile Val Asn Asp  
 65 70 75 80

Arg Gln Pro Ser Phe Lys Ser Pro Phe Gly Val Asn Asp Pro His Ser  
 85 90 95

Asn His Asp Glu Asp Pro His Ala Lys Asp Thr Lys Thr Asp Thr Ala  
100 105 110

Ala Ala Ala Val Gly Gly Ile Phe Lys Ser Asn Phe Asp Val Lys  
115 120 125

Lys Ser Ala Ser Asn Pro Pro Thr Lys Glu Val Asp Pro Asp Asp Pro  
130 135 140

Ser Lys Pro Ser Ser Ser Gln Pro Asn Gln Gln Ser Ala Ser Ala  
145 150 155 160

Ser Ser Lys Thr Pro Ser Ser Lys Ile Pro Val Ala Phe Asn Ala Asn  
165 170 175

Arg Arg Thr Ser Val Ser Ala Glu Ala Leu Asn Pro Ala Lys Leu Lys  
180 185 190

Leu Asp Ser Trp Lys Pro Pro Val Asn Asn Leu Ser Ile Thr Glu Glu  
195 200 205

Glu Thr Leu Ala Asn Asn Leu Lys Asn Asn Phe Leu Phe Lys Gln Leu  
210 215 220

Asp Ala Asn Ser Lys Lys Thr Val Ile Ala Ala Leu Gln Gln Lys Ser  
225 230 235 240

Phe Ala Lys Asp Thr Val Ile Ile Gln Gln Gly Asp Glu Gly Asp Phe  
245 250 255

Phe Tyr Ile Ile Glu Thr Gly Thr Val Asp Phe Tyr Val Asn Asp Ala  
260 265 270

Lys Val Ser Ser Ser Glu Gly Ser Ser Phe Gly Glu Leu Ala Leu  
275 280 285

Met Tyr Asn Ser Pro Arg Ala Ala Thr Ala Val Ala Ala Thr Asp Val  
290 295 300

Val Cys Trp Ala Leu Asp Arg Leu Thr Phe Arg Arg Ile Leu Leu Glu  
305 310 315 320

Gly Thr Phe Asn Lys Arg Leu Met Tyr Glu Asp Phe Leu Lys Asp Ile  
325 330 335

Glu Val Leu Lys Ser Leu Ser Asp His Ala Arg Ser Lys Leu Ala Asp  
 340 345 350

Ala Leu Ser Thr Glu Met Tyr His Lys Gly Asp Lys Ile Val Thr Glu  
 355 360 365

Gly Glu Gln Gly Glu Asn Phe Tyr Leu Ile Glu Ser Gly Asn Cys Gln  
 370 375 380

Val Tyr Asn Glu Lys Leu Gly Asn Ile Lys Gln Leu Thr Lys Gly Asp  
 385 390 395 400

Tyr Phe Gly Glu Leu Ala Leu Ile Lys Asp Leu Pro Arg Gln Ala Thr  
 405 410 415

Val Glu Ala Leu Asp Asn Val Ile Val Ala Thr Leu Gly Lys Ser Gly  
 420 425 430

Phe Gln Arg Leu Leu Gly Pro Val Val Glu Val Leu Lys Glu Gln Asp  
 435 440 445

Pro Thr Lys Ser Gln Asp Pro Thr Ala Gly His  
 450 455

<210> 40  
 <211> 415  
 <212> PRT  
 <213> *Saccharomyces cerevisiae*

<400> 40

Val Ser Ser Leu Pro Lys Glu Ser Gln Ala Glu Leu Gln Leu Phe Gln  
 1 5 10 15

Asn Glu Ile Asn Ala Ala Asn Pro Ser Asp Phe Leu Gln Phe Ser Ala  
 20 25 30

Asn Tyr Phe Asn Lys Arg Leu Glu Gln Gln Arg Ala Phe Leu Lys Ala  
 35 40 45

Arg Glu Pro Glu Phe Lys Ala Lys Asn Ile Val Leu Phe Pro Glu Pro  
 50 55 60

Glu Glu Ser Phe Ser Arg Pro Gln Ser Ala Gln Ser Gln Ser Arg Ser

65

70

75

80

Arg Ser Ser Val Met Phe Lys Ser Pro Phe Val Asn Glu Asp Pro His  
 85 90 95

Ser Asn Val Phe Lys Ser Gly Phe Asn Leu Asp Pro His Glu Gln Asp  
 100 105 110

Thr His Gln Gln Ala Gln Glu Glu Gln Gln His Thr Arg Glu Lys Thr  
 115 120 125

Ser Thr Pro Pro Leu Pro Met His Phe Asn Ala Gln Arg Arg Thr Ser  
 130 135 140

Val Ser Gly Glu Thr Leu Gln Pro Asn Asn Phe Asp Asp Trp Thr Pro  
 145 150 155 160

Asp His Tyr Lys Glu Lys Ser Glu Gln Gln Leu Gln Arg Leu Glu Lys  
 165 170 175

Ser Ile Arg Asn Asn Phe Leu Phe Asn Lys Leu Asp Ser Asp Ser Lys  
 180 185 190

Arg Leu Val Ile Asn Cys Leu Glu Glu Lys Ser Val Pro Lys Gly Ala  
 195 200 205

Thr Ile Ile Lys Gln Gly Asp Gln Gly Asp Tyr Phe Tyr Val Val Glu  
 210 215 220

Lys Gly Thr Val Asp Phe Tyr Val Asn Asp Asn Lys Val Asn Ser Ser  
 225 230 235 240

Gly Pro Gly Ser Ser Phe Gly Glu Leu Ala Leu Met Tyr Asn Ser Pro  
 245 250 255

Arg Ala Ala Thr Val Val Ala Thr Ser Asp Cys Leu Leu Trp Ala Leu  
 260 265 270

Asp Arg Leu Thr Phe Arg Lys Ile Leu Leu Gly Ser Ser Phe Lys Lys  
 275 280 285

Arg Leu Met Tyr Asp Asp Leu Leu Lys Ser Met Pro Val Leu Lys Ser  
 290 295 300

Leu Thr Thr Tyr Asp Arg Ala Lys Leu Ala Asp Ala Leu Asp Thr Lys  
 305 310 315 320

Ile Tyr Gln Pro Gly Glu Thr Ile Ile Arg Glu Gly Asp Gln Gly Glu  
 325 330 335

Asn Phe Tyr Leu Ile Glu Tyr Gly Ala Val Asp Val Ser Lys Lys Gly  
 340 345 350

Gln Gly Val Ile Asn Lys Leu Lys Asp His Asp Tyr Phe Gly Glu Val  
 355 360 365

Ala Leu Leu Asn Asp Leu Pro Arg Gln Ala Thr Val Thr Ala Thr Lys  
 370 375 380

Arg Thr Lys Val Ala Thr Leu Gly Lys Ser Gly Phe Gln Arg Leu Leu  
 385 390 395 400

Gly Pro Ala Val Asp Val Leu Lys Leu Asn Asp Pro Thr Arg His  
 405 410 415

<210> 41

<211> 412

<212> PRT

<213> Schizosaccharomyces pombe

<400> 41

Met Ser Phe Glu Glu Val Tyr Glu Glu Leu Lys Ala Leu Val Asp Glu  
 1 5 10 15

Gln Asn Pro Ser Asp Val Leu Gln Phe Cys Tyr Asp Phe Phe Gly Glu  
 20 25 30

Lys Leu Lys Ala Glu Arg Ser Val Phe Arg Arg Gly Asp Thr Ile Thr  
 35 40 45

Glu Ser Phe Ser Asp Gly Asp Glu Ser Asp Phe Leu Ser Glu Leu Asn  
 50 55 60

Asp Met Val Ala Gly Pro Glu Ala Ile Gly Pro Asp Ala Lys Tyr Val  
 65 70 75 80

Pro Glu Leu Gly Gly Leu Lys Glu Met Asn Val Ser Tyr Pro Gln Asn  
 85 90 95

Tyr Asn Leu Leu Arg Arg Gln Ser Val Ser Thr Glu Ser Met Asn Pro  
100 105 110

Ser Ala Phe Ala Leu Glu Thr Lys Arg Thr Phe Pro Pro Lys Asp Pro  
115 120 125

Glu Asp Leu Lys Arg Leu Lys Arg Ser Val Ala Gly Asn Phe Leu Phe  
130 135 140

Lys Asn Leu Asp Glu Glu His Tyr Asn Glu Val Leu Asn Ala Met Thr  
145 150 155 160

Glu Lys Arg Ile Gly Glu Ala Gly Val Ala Val Ile Val Gln Gly Ala  
165 170 175

Val Gly Asp Tyr Phe Tyr Ile Val Glu Gln Gly Glu Phe Asp Val Tyr  
180 185 190

Lys Arg Pro Glu Leu Asn Ile Thr Pro Glu Glu Val Leu Ser Ser Gly  
195 200 205

Tyr Gly Asn Tyr Ile Thr Thr Ile Ser Pro Gly Glu Tyr Phe Gly Glu  
210 215 220

Leu Ala Leu Met Tyr Asn Ala Pro Arg Ala Ala Ser Val Val Ser Lys  
225 230 235 240

Thr Pro Asn Asn Val Ile Tyr Ala Leu Asp Arg Thr Ser Phe Arg Arg  
245 250 255

Ile Val Phe Glu Asn Ala Tyr Arg Gln Arg Met Leu Tyr Glu Ser Leu  
260 265 270

Leu Glu Glu Val Pro Ile Leu Ser Ser Leu Asp Lys Tyr Gln Arg Gln  
275 280 285

Lys Ile Ala Asp Ala Leu Gln Thr Val Val Tyr Gln Ala Gly Ser Ile  
290 295 300

Val Ile Arg Gln Gly Asp Ile Gly Asn Gln Phe Tyr Leu Ile Glu Asp  
305 310 315 320

Gly Glu Ala Glu Val Val Lys Asn Gly Lys Gly Val Val Val Thr Leu  
 325 330 335

Thr Lys Gly Asp Tyr Phe Gly Glu Leu Ala Leu Ile His Glu Thr Val  
 340 345 350

Arg Asn Ala Thr Val Gln Ala Lys Thr Arg Leu Lys Leu Ala Thr Phe  
 355 360 365

Asp Lys Pro Thr Phe Asn Arg Leu Leu Gly Asn Ala Ile Asp Leu Met  
 370 375 380

Arg Asn Gln Pro Arg Ala Arg Met Gly Met Asp Asn Glu Tyr Gly Asp  
 385 390 395 400

Gln Ser Leu His Arg Ser Pro Pro Ser Thr Lys Ala  
 405 410

<210> 42

<211> 248

<212> PRT

<213> Mucor rouxii

<400> 42

Met Asp Glu Glu His Tyr Gln Asp Ile Val Asn Ala Met Ile Glu Lys  
 1 5 10 15

Pro Val Arg Lys Gly Glu Thr Ile Ile Glu Gln Gly Ala Val Gly Asp  
 20 25 30

Tyr Phe Tyr Val Val Ala Ser Gly Thr Phe Asp Cys Tyr Ile Lys Lys  
 35 40 45

Pro Gly Gln Glu Lys Pro Leu Lys Val Thr Ser Tyr Glu Arg Gly Gly  
 50 55 60

Ser Phe Gly Glu Leu Ala Leu Met Tyr Asn Ala Pro Arg Ala Ala Thr  
 65 70 75 80

Val Thr Ser Thr Ser Glu Ser Val Leu Trp Ala Leu Asp Arg Val Thr  
 85 90 95

Phe Arg Thr Ile Leu Met Glu Asn Thr Ala Leu Lys Arg Arg Val Tyr  
 100 105 110

Glu Ser Phe Leu Glu Glu Val Ala Leu Leu Ile Ser Leu Glu Pro Tyr  
 115 120 125

Glu Arg His Lys Ile Ala Asp Ser Leu Glu Thr Ile Phe Phe Asn Asp  
 130 135 140

Asn Gly His Val Ile Ser Gln Gly Asp Ile Gly Asp Gln Phe Tyr Ile  
 145 150 155 160

Ile Glu Ser Gly Ser Ala Ile Val Tyr Lys Thr Asp Ser Asn Gly Asp  
 165 170 175

Gln Gln Met Val Asn Gln Leu Glu Arg Gly Ala Tyr Phe Gly Glu Leu  
 180 185 190

Ala Leu Leu Asn Asp Cys Pro Arg Ala Ala Thr Val Ile Ala Lys Gly  
 195 200 205

Thr Leu Arg Cys Val Thr Leu Gly Lys Ala Phe Thr Arg Leu Leu  
 210 215 220

Gly Pro Val His Glu Ile Leu Lys Arg Asn Ala Glu Asn Tyr Gln Ala  
 225 230 235 240

Ile Leu Ser Gln Gln Gln Gln Tyr  
 245

<210> 43  
 <211> 605  
 <212> PRT  
 <213> Mucor circinelloides

<400> 43

Met Ala Asp Phe Thr Asp Ser Leu Ile Lys Asn Ile Gly Val His Ser  
 1 5 10 15

Ser Ser Pro Val Met Thr Ser Val Asn Met Gly Gln Leu Gly Glu Lys  
 20 25 30

Leu Arg Gln Ala Arg Thr Thr Leu Ala Ser Leu Ser Gln Ala Leu  
 35 40 45

Ser Lys Lys Pro Glu Ala Ala Ala Ala Ala Thr Ala Pro Asn Ala  
 50 55 60

Val Asn Glu Ser Thr Thr Pro Thr Thr Met Gln Leu Pro Ala Ser  
 65 70 75 80

Glu Lys Ala Thr Ser Gln Leu Glu Ile Asn Val Val Glu Ala Arg Asn  
 85 90 95

Leu Thr Ile Ala Asp Ala Arg Lys Ala Asp Thr Tyr Cys Ile Val His  
 100 105 110

Tyr Glu Gly Asn Thr Thr Ser Thr Leu Asp Lys Val Asp Asp Gly Ile  
 115 120 125

Leu Pro Ser Thr Pro Leu Val Ile Lys Ser Gln Val Ala Ser Gly Ala  
 130 135 140

Phe Lys Ala Phe Glu Ile Met Met Ser Ala Ser Ser Pro Lys Trp Met  
 145 150 155 160

His Arg Val Asn Phe Asp Val Thr Ala Gly Asn Lys Glu Ile Thr Val  
 165 170 175

Ser Val Tyr Asp Arg Gly Asn Lys Leu Pro Asn Gly Glu Asp Arg Phe  
 180 185 190

Leu Gly Met Ser Ser Ile Val Pro Asn Leu Val Asn Lys Lys Thr Val  
 195 200 205

Glu Leu Ile Phe Pro Leu His Gly Arg Pro Asp Asp Asp Gln Glu Val  
 210 215 220

Thr Gly Asp Val Arg Leu Gln Val Thr Phe Ile Asp Pro Lys Lys Ala  
 225 230 235 240

Asn Leu Lys Pro Glu Asp Phe Arg Ile Val Arg Met Ile Gly Gln Gly  
 245 250 255

Ser Val Gly Lys Val Tyr Glu Val Ile Lys Arg Asp Ser Gly Arg Thr  
 260 265 270

Tyr Ala Met Lys Val Leu Ser Lys Arg Leu Leu Leu Ala Glu Asn Glu  
 275 280 285

Val Asp Thr Ala Phe Asn Glu Arg Asn Val Leu Val Gln Ser Leu Ser  
 290 295 300

Ser Pro Phe Ile Ala Asn Leu Lys Tyr Ser Phe Gln Thr Thr Asn His  
 305 310 315 320

Leu Phe Leu Val Met Asp Tyr Phe Pro Gly Gly Glu Leu Phe Asp Phe  
 325 330 335

Leu Glu Arg Glu Arg Cys Leu Ser Glu Lys Arg Cys Gln Phe Phe Ala  
 340 345 350

Ala Glu Ile Val Cys Ala Phe Asp Asn Ile His Ala Arg Asn Ile Val  
 355 360 365

Tyr Arg Asn Leu Lys Pro Glu Ser Ile Leu Leu Asp Ala His Gly His  
 370 375 380

Ile Ala Leu Thr Asp Phe Gly Leu Cys Lys Gln Leu Lys Asn Lys Met  
 385 390 395 400

Asp Leu Ile Gln Gly Val Pro Gln Val Ile Thr Gln Glu Tyr Leu Ala  
 405 410 415

Pro Glu Met Val Met Gln Lys Pro Tyr Gly Met Ala Ala Asp Trp Trp  
 420 425 430

Ser Leu Gly Val Leu Met Phe Glu Leu Leu Thr Gly Ser Pro Pro Phe  
 435 440 445

His Ser Val Glu Gln Gly Glu Leu Phe Arg Gln Ile Leu Glu Ala Pro  
 450 455 460

Ile Lys Phe Pro Ala Gly Gly Cys Ile Thr Glu Glu Ala Lys Asp Phe  
 465 470 475 480

Ile Cys Gln Leu Leu Glu Arg Asp Pro Ala Lys Arg Leu Gly Ser His  
 485 490 495

Gly Asp Val Ala Gln Val Lys Ala His Pro Phe Phe Lys Asp Leu Asn  
 500 505 510

Trp Asp Val Val Tyr Lys Lys Gln Met Gln Leu Pro Phe Val Pro Glu  
 515 520 525

Val Glu Glu Gln Leu Arg Glu Glu Ala Ile Ala Ala Ala Ala Ala Ile  
 530 535 540

Ser Ile Pro Val Thr Asn Ser Lys Thr Glu Ser Thr Asn Ala Asn Val  
 545 550 555 560

Met Pro Val Ala Asp Gln Ser Lys Phe Lys Gly Phe Ser Tyr Ile Arg  
 565 570 575

Glu Asp Val Met Ala Lys Lys Gly Glu His Arg Leu Gly Val Asn Pro  
 580 585 590

Glu Asp Glu Asp Pro Glu Val Asp Phe Trp Phe Arg Gln  
 595 600 605

<210> 44  
 <211> 480  
 <212> PRT  
 <213> Aspergillus niger

<400> 44

Met Pro Ser Leu Gly Gly Leu Leu Lys Lys Arg Arg Thr Lys Asp Ser  
 1 5 10 15

Gln Thr Leu Ser Lys Glu Leu Glu Ala Gly Ser Ala Gln Thr Gln Thr  
 20 25 30

Ser Pro Asn Ala Ala Glu Asp His His Asn His Asn His His Gln His  
 35 40 45

His His His Leu Phe His His His Gln Pro Gln Pro Ala Thr Asn  
 50 55 60

Ser Gly Ser Ala Ala Asn Thr Pro Pro Gln Pro Gln Asp Ser Val Pro  
 65 70 75 80

Gln Gln Ser Asn Arg Ser Ser Gly Ala Glu Lys Ser Ser Asp Gly Gln  
 85 90 95

Val Ala Ser Met Gln Ser Ala Val Thr Gln Ala Ser Pro Ser Ala His  
 100 105 110

His Thr Ser Gly Leu Pro Gln Pro Asn Ala Asn Ala Ser Ile Gln

115	120	125
Asn Ile Ile Asn Pro Ser Gln Gln Gly Ala Met His Ser Ala Ser Ser		
130	135	140
Gly His Thr Gln Ser His His Ala Gly Arg Ser Asp Ala Arg Thr Thr		
145	150	155
Lys Gly Lys Tyr Ser Leu Asp Asp Phe Ser Leu Gln Arg Thr Leu Gly		
165	170	175
Thr Gly Ser Phe Gly Arg Val His Leu Val Gln Ser Lys His Asn His		
180	185	190
Arg Phe Tyr Ala Val Lys Val Leu Lys Lys Ala Gln Val Val Lys Met		
195	200	205
Lys Gln Ile Glu His Thr Asn Asp Glu Arg Arg Met Leu Asn Arg Val		
210	215	220
Arg His Pro Phe Leu Ile Thr Leu Trp Gly Thr Trp Gln Asp Ser Arg		
225	230	235
Asn Leu Tyr Met Val Met Asp Phe Val Glu Gly Gly Glu Leu Phe Ser		
245	250	255
Leu Val Arg Lys Ser Gln Arg Phe Pro Asn Pro Val Ala Lys Phe Tyr		
260	265	270
Ala Ala Glu Val Thr Leu Ala Leu Glu Tyr Leu His Thr Gln Asn Ile		
275	280	285
Ile Tyr Arg Asp Leu Lys Pro Glu Asn Leu Leu Leu Asp Arg His Gly		
290	295	300
His Leu Lys Ile Thr Asp Phe Gly Phe Ala Lys Glu Val Pro Asp Ile		
305	310	315
Thr Trp Thr Leu Cys Gly Thr Pro Asp Tyr Leu Ala Pro Glu Val Val		
325	330	335
Ser Ser Lys Gly Tyr Asn Lys Ser Val Asp Trp Trp Ser Leu Gly Ile		
340	345	350

Leu Ile Phe Glu Met Leu Cys Gly Phe Thr Pro Phe Trp Asp Ser Gly  
 355 360 365

Ser Pro Val Lys Ile Tyr Glu Asn Ile Leu Arg Gly Arg Val Lys Tyr  
 370 375 380

Pro Pro Tyr Leu His Pro Asp Ala Val Asp Leu Leu Ser Gln Leu Ile  
 385 390 395 400

Thr Ala Asp Leu Thr Lys Arg Leu Gly Asn Leu His Gly Gly Ser Asp  
 405 410 415

Asp Val Lys Asn His Pro Trp Phe Ala Glu Val Thr Trp Asp Arg Leu  
 420 425 430

Ala Arg Lys Asp Ile Asp Ala Pro Tyr Val Pro Pro Ile Arg Gly Gly  
 435 440 445

Gln Gly Asp Ala Ser Gln Tyr Asp Arg Tyr Pro Glu Glu Thr Glu Gln  
 450 455 460

Tyr Gly Met Ala Gly Glu Asp Pro His Gly His Leu Phe Pro Asp Phe  
 465 470 475 480

<210> 45  
 <211> 425  
 <212> PRT  
 <213> Blastocadiella emersonii

<400> 45

Met Thr Leu Ile Asp Lys Leu Met Glu Lys Thr Lys Lys Val Val Gly  
 1 5 10 15

Ser Ser Asp Lys Asp Ala Pro Ala Ser Pro Ser Ser Pro Ser  
 20 25 30

Thr Ala Ala Gly Ala Gly Ser Ala Ser Ser Thr Ala Ser Ser Thr Thr  
 35 40 45

Thr Ala Ala Ala Ser Gly Asn Leu Ser Ile Pro Ser Pro Leu Val Ala  
 50 55 60

Gly Ser Thr Thr Ser Ser Ser Ile Ser His Ala Gln Lys Met Ala Thr  
 65 70 75 80

Ala Ala His Thr Asn Ser Asp Tyr Ser Pro Ser Pro Ala Ala Thr Pro  
85 90 95

Ser Ala Pro Leu Asp Ala Val Ala Glu Arg Arg Arg Arg Lys Thr Thr  
100 105 110

Leu Ala Asp Leu Glu Leu Arg Gln Thr Leu Gly Thr Gly Ser Phe Gly  
115 120 125

Arg Val His Leu Val Arg Leu Arg Ser Thr Gly Lys Tyr Tyr Ala Met  
130 135 140

Lys Val Leu Lys Lys Ala Glu Val Val Lys His Lys Gln Val Glu His  
145 150 155 160

Thr Leu Asn Glu Lys Gly Ile Leu Glu Gln Ile Asp His Pro Phe Leu  
165 170 175

Val Ala Leu His Ser Ser Phe Gln Asp Ser Ala Asn Leu Tyr Met Val  
180 185 190

Met Glu Tyr Val Thr Gly Gly Glu Leu Phe Thr Tyr Leu Arg Arg Ser  
195 200 205

Gln Arg Phe Ser Asn Asn Val Ala Lys Phe Tyr Ala Ala Glu Val Val  
210 215 220

Leu Ala Phe Glu Tyr Leu His Ser Lys Asp Ile Ile Tyr Arg Asp Leu  
225 230 235 240

Lys Pro Glu Asn Leu Leu Leu Asp Ala Gln Gly His Val Lys Ile Thr  
245 250 255

Asp Phe Gly Phe Ala Lys His Val Pro Asp Ile Thr Trp Thr Leu Cys  
260 265 270

Gly Thr Pro Asp Tyr Leu Ala Pro Glu Ile Ile Gln Ser Arg Gly Tyr  
275 280 285

Gly Arg Ala Val Asp Trp Tyr Ala Leu Gly Val Leu Ile Phe Glu Met  
290 295 300

Leu Ala Gly Tyr Pro Pro Phe Tyr Asp Glu Asp His Val Arg Met Tyr  
 305 310 315 320

Glu Lys Ile Leu Gln Gly Lys Val Lys Trp Pro Ser His Phe Asp Pro  
 325 330 335

Ala Ala Lys Asp Leu Leu Lys Arg Leu Leu Thr Thr Asp Leu Thr Lys  
 340 345 350

Arg Tyr Gly Asn Leu Lys Gly Gly Ser Lys Asp Ile Lys Met His Lys  
 355 360 365

Trp Phe Ala Gly Leu Asp Trp Thr Lys Leu Phe Asn Lys Gln Ile Pro  
 370 375 380

Pro Pro Tyr Thr Pro Pro Asn Arg Gly Asp Gly Asp Thr Ser Asn Phe  
 385 390 395 400

Asp Ala Tyr Pro Glu Glu Thr Glu Pro Tyr Gly Lys Val Gln Pro Asp  
 405 410 415

Pro Tyr Ala Gln Leu Phe Lys Asp Phe  
 420 425

<210> 46  
 <211> 442  
 <212> PRT  
 <213> Candida albicans

<400> 46

Met Val Asn Leu Leu Lys Lys Leu His Ile Thr Lys Ser His Gln Ser  
 1 5 10 15

Asn His Ser Asn Ser Asp Ser Asn Ser Leu Asn Ser Asn Thr Ser Met  
 20 25 30

Asp Asn His Gln Gln Gln Gln Leu Gln Gln Tyr Gln Gln Gln Phe  
 35 40 45

Gln Gln Pro Gln Gln Gln Leu Tyr Pro Gly Glu Gln Ile Val His Pro  
 50 55 60

Ala Ala Ala Gln Thr Gly Gln Asn Thr Thr Asn Val Thr Ala Val Ser  
 65 70 75 80

Ser Ser Asn Ile Thr Gln Ser Ala Thr Ser Ser Leu His Ser Gln Gln  
 85 90 95

Leu Gln His Val Asp Val Ser Lys Ser Ala Ala Glu Glu Ala Ile Arg  
 100 105 110

Arg Ser Leu Leu Pro Glu Arg Ser Thr Val Ser Lys Gly Lys Tyr Ser  
 115 120 125

Leu Thr Asp Phe Ser Ile Met Arg Thr Leu Gly Thr Gly Ser Phe Gly  
 130 135 140

Arg Val His Leu Val Arg Ser Val His Asn Gly Arg Tyr Tyr Ala Ile  
 145 150 155 160

Lys Val Leu Lys Lys His Gln Val Val Lys Met Lys Gln Val Glu His  
 165 170 175

Thr Asn Asp Glu Arg Arg Met Leu Lys Leu Val Glu His Pro Phe Leu  
 180 185 190

Ile Arg Met Trp Gly Thr Phe Gln Asp Ser Lys Asn Leu Phe Met Val  
 195 200 205

Met Asp Tyr Ile Glu Gly Glu Leu Phe Ser Leu Leu Arg Lys Ser  
 210 215 220

Gln Arg Phe Pro Asn Pro Val Ala Lys Phe Tyr Ala Ala Glu Val Thr  
 225 230 235 240

Leu Ala Leu Glu Tyr Leu His Ser His Asp Ile Ile Tyr Arg Asp Leu  
 245 250 255

Lys Pro Glu Asn Ile Leu Leu Asp Arg Asn Gly His Ile Lys Ile Thr  
 260 265 270

Asp Phe Gly Phe Ala Lys Glu Val Ser Thr Val Thr Trp Thr Leu Cys  
 275 280 285

Gly Thr Pro Asp Tyr Ile Ala Pro Glu Val Ile Thr Thr Lys Pro Tyr  
 290 295 300

Asn Lys Ser Val Asp Trp Trp Ser Leu Gly Val Leu Ile Phe Glu Met

305

310

315

320

Leu Ala Gly Tyr Thr Pro Phe Tyr Asp Ser Thr Pro Met Lys Thr Tyr  
 325 330 335

Glu Lys Ile Leu Ala Gly Lys Ile His Tyr Pro Ser Phe Phe Gln Pro  
 340 345 350

Asp Val Ile Asp Leu Leu Thr Lys Leu Ile Thr Ala Asp Leu Thr Arg  
 355 360 365

Arg Leu Gly Asn Leu Ile Asn Gly Pro Ala Asp Ile Arg Asn His Pro  
 370 375 380

Trp Phe Ser Glu Val Val Trp Glu Lys Leu Leu Ala Lys Asp Ile Glu  
 385 390 395 400

Thr Pro Tyr Glu Pro Pro Ile Thr Ala Gly Val Gly Asp Ser Ser Leu  
 405 410 415

Phe Asp His Tyr Pro Glu Glu Gln Leu Asp Tyr Gly Ser Gln Gly Glu  
 420 425 430

Asp Pro Tyr Ala Ser Tyr Phe Leu Asp Phe  
 435 440

<210> 47  
 <211> 380  
 <212> PRT  
 <213> *Saccharomyces cerevisiae*

<400> 47

Met Glu Phe Val Ala Glu Arg Ala Gln Pro Val Gly Gln Thr Ile Gln  
 1 5 10 15

Gln Gln Asn Val Asn Thr Tyr Gly Gln Gly Val Leu Gln Pro His His  
 20 25 30

Asp Leu Gln Gln Arg Gln Gln Gln Gln Gln Arg Gln His Gln Gln  
 35 40 45

Leu Leu Thr Ser Gln Leu Pro Gln Lys Ser Leu Val Ser Lys Gly Lys  
 50 55 60

Tyr Thr Leu His Asp Phe Gln Ile Met Arg Thr Leu Gly Thr Gly Ser  
 65 70 75 80

Phe Gly Arg Val His Leu Val Arg Ser Val His Asn Gly Arg Tyr Tyr  
 85 90 95

Ala Ile Lys Val Leu Lys Lys Gln Gln Val Val Lys Met Lys Gln Val  
 100 105 110

Glu His Thr Asn Asp Glu Arg Arg Met Leu Lys Leu Val Glu His Pro  
 115 120 125

Phe Leu Ile Arg Met Trp Gly Thr Phe Gln Asp Ala Arg Asn Ile Phe  
 130 135 140

Met Val Met Asp Tyr Ile Glu Gly Gly Glu Leu Phe Ser Leu Leu Arg  
 145 150 155 160

Lys Ser Gln Arg Phe Pro Asn Pro Val Ala Lys Phe Tyr Ala Ala Glu  
 165 170 175

Val Ile Leu Ala Leu Glu Tyr Leu His Ala His Asn Ile Ile Tyr Arg  
 180 185 190

Asp Leu Lys Pro Glu Asn Ile Leu Leu Asp Arg Asn Gly His Ile Lys  
 195 200 205

Ile Thr Asp Phe Gly Phe Ala Lys Glu Val Gln Thr Val Thr Trp Thr  
 210 215 220

Leu Cys Gly Thr Pro Asp Tyr Ile Ala Pro Glu Val Ile Thr Thr Lys  
 225 230 235 240

Pro Tyr Asn Lys Ser Val Asp Trp Trp Ser Leu Gly Val Leu Ile Tyr  
 245 250 255

Glu Met Leu Ala Gly Tyr Thr Pro Phe Tyr Asp Thr Thr Pro Met Lys  
 260 265 270

Thr Tyr Glu Lys Ile Leu Gln Gly Lys Val Val Tyr Pro Pro Tyr Phe  
 275 280 285

His Pro Asp Val Val Asp Leu Leu Ser Lys Leu Ile Thr Ala Asp Leu  
 290 295 300

Thr Arg Arg Ile Gly Asn Leu Gln Ser Gly Ser Arg Asp Ile Lys Ala  
 305 310 315 320

His Pro Trp Phe Ser Glu Val Val Trp Glu Arg Leu Leu Ala Lys Asp  
 325 330 335

Ile Glu Thr Pro Tyr Glu Pro Pro Ile Thr Ser Gly Ile Gly Asp Thr  
 340 345 350

Ser Leu Phe Asp Gln Tyr Pro Glu Glu Gln Leu Asp Tyr Gly Ile Gln  
 355 360 365

Gly Asp Asp Pro Tyr Ala Glu Tyr Phe Gln Asp Phe  
 370 375 380

<210> 48

<211> 512

<212> PRT

<213> Schizosaccharomyces pombe

<400> 48

Met Asp Thr Thr Ala Val Ala Ser Lys Gly Ser Thr Asn Val Gly Ser  
 1 5 10 15

Ser Thr Asp Thr Leu Ser Thr Ser Ala Ser Leu His Pro Ser Met Asn  
 20 25 30

Ala Gly Ser Val Asn Glu Tyr Ser Glu Gln Gln Arg His Gly Thr Asn  
 35 40 45

Ser Phe Asn Gly Lys Pro Ser Val His Asp Ser Val Gly Ser Asp Ala  
 50 55 60

Ser Val Ser Asn Gly His Asn Asn His Asn Glu Ser Ser Leu Trp Thr  
 65 70 75 80

Ser Gly Ile Pro Lys Ala Leu Glu Glu Ala Thr Lys Ser Lys Lys Pro  
 85 90 95

Asp Ser Leu Val Ser Thr Ser Thr Ser Gly Cys Ala Ser Ala His Ser  
 100 105 110

Val Gly Tyr Gln Asn Ile Asp Asn Leu Ile Pro Ser Pro Leu Pro Glu

115	120	125
Ser Ala Ser Arg Ser Ser Gln Ser Ser His Gln Arg His Ser Arg		
130	135	140
Asp Gly Arg Gly Glu Leu Gly Ser Glu His Gly Glu Arg Arg Ser Ala		
145	150	155
Met Asp Gly Leu Arg Asp Arg His Ile Arg Lys Val Arg Val Ser Gln		
165	170	175
Leu Leu Asp Leu Gln Arg Arg Arg Ile Arg Pro Ala Asp His Thr Thr		
180	185	190
Lys Asp Arg Tyr Gly Ile Gln Asp Phe Asn Phe Leu Gln Thr Leu Gly		
195	200	205
Thr Gly Ser Phe Gly Arg Val His Leu Val Gln Ser Asn His Asn Arg		
210	215	220
Leu Tyr Tyr Ala Ile Lys Val Leu Glu Lys Lys Lys Ile Val Asp Met		
225	230	235
240		
Lys Gln Ile Glu His Thr Cys Asp Glu Arg Tyr Ile Leu Ser Arg Val		
245	250	255
Gln His Pro Phe Ile Thr Ile Leu Trp Gly Thr Phe Gln Asp Ala Lys		
260	265	270
Asn Leu Phe Met Val Met Asp Phe Ala Glu Gly Glu Leu Phe Ser		
275	280	285
Leu Leu Arg Lys Cys His Arg Phe Pro Glu Lys Val Ala Lys Phe Tyr		
290	295	300
Ala Ala Glu Val Ile Leu Ala Leu Asp Tyr Leu His His Asn Gln Ile		
305	310	315
320		
Val Tyr Arg Asp Leu Lys Pro Glu Asn Leu Leu Leu Asp Arg Phe Gly		
325	330	335
His Leu Lys Ile Val Asp Phe Gly Phe Ala Lys Arg Val Ser Thr Ser		
340	345	350

Asn Cys Cys Thr Leu Cys Gly Thr Pro Asp Tyr Leu Ala Pro Glu Ile  
 355 360 365

Ile Ser Leu Lys Pro Tyr Asn Lys Ala Ala Asp Trp Trp Ser Leu Gly  
 370 375 380

Ile Leu Ile Phe Glu Met Leu Ala Gly Tyr Pro Pro Phe Tyr Ser Glu  
 385 390 395 400

Asn Pro Met Lys Leu Tyr Glu Asn Ile Leu Glu Gly Lys Val Asn Tyr  
 405 410 415

Pro Ser Tyr Phe Ser Pro Ala Ser Ile Asp Leu Leu Ser His Leu Leu  
 420 425 430

Gln Arg Asp Ile Thr Cys Arg Tyr Gly Asn Leu Lys Asp Gly Ser Met  
 435 440 445

Asp Ile Ile Met His Pro Trp Phe Arg Asp Ile Ser Trp Asp Lys Ile  
 450 455 460

Leu Thr Arg Lys Ile Glu Val Pro Tyr Val Pro Pro Ile Gln Ala Gly  
 465 470 475 480

Met Gly Asp Ser Ser Gln Phe Asp Ala Tyr Ala Asp Val Ala Thr Asp  
 485 490 495

Tyr Gly Thr Ser Glu Asp Pro Glu Phe Thr Ser Ile Phe Lys Asp Phe  
 500 505 510

<210> 49

<211> 70

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 49

tttctctttt tcagggtttt tttcttcttc ttccatactat atctctatataatttataaaa 60

tctcgagatg 70

<210> 50

<211> 125

<212> PRT

<213> *Mucor circinelloides*

<400> 50

Lys Phe Phe Leu Ala Thr Ala Pro Val Asn Trp Glu His Asn Lys Pro  
1 5 10 15

Leu Lys Arg Phe Ala Leu Pro Gly Gly Ser Ala Ala Ala Ala Pro Gly  
20 25 30

Gly Arg Ser Pro Asn Gly Ser Gly Glu Ser Ile Ser Cys Val Leu Trp  
35 40 45

Asn Asp Leu Phe Phe Ile Thr Gly Thr Asp Ile Val Arg Ser Leu Thr  
50 55 60

Phe Arg Phe His Ala Phe Gly Arg Pro Val Thr Asn Ala Lys Lys Phe  
65 70 75 80

Glu Glu Gly Ile Phe Ser Asp Leu Arg Asn Leu Lys Pro Gly His Asp  
85 90 95

Ala Arg Leu Glu Glu Pro Lys Ser Glu Leu Leu Asp Met Leu Tyr Lys  
100 105 110

Asn Asn Cys Ile Arg Thr Gln Lys Lys Gln Lys Val Phe  
115 120 125

<210> 51

<211> 111

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 51

Lys Phe Phe Leu Ala Thr Ala Pro Val Asn Trp Gln Glu Asn Gln Ile  
1 5 10 15

Ile Arg Arg Tyr Tyr Leu Asn Ser Gly Gln Gly Phe Val Ser Cys Val  
20 25 30

Phe Trp Asn Asn Leu Tyr Tyr Ile Thr Gly Thr Asp Ile Val Lys Cys  
35 40 45

Cys Leu Tyr Arg Met Gln Lys Phe Gly Arg Glu Val Val Gln Lys Lys  
50 55 60

Lys Phe Glu Glu Gly Ile Phe Ser Asp Leu Arg Asn Leu Lys Cys Gly  
65 70 75 80

Ile Asp Ala Thr Leu Glu Gln Pro Lys Ser Glu Phe Leu Ser Phe Leu  
85 90 95

Phe Arg Asn Met Cys Leu Lys Thr Gln Lys Lys Gln Lys Val Phe  
100 105 110

<210> 52  
<211> 111  
<212> PRT  
<213> *Candida albicans*

<400> 52

Lys Phe Phe Leu Ala Thr Ala Pro Ala Asn Trp Gln Glu Asn Gln Val  
1 5 10 15

Ile Arg Arg Tyr Tyr Leu Asn His Asp Glu Gly Phe Val Ser Cys Val  
20 25 30

Tyr Trp Asn Asn Leu Tyr Phe Ile Thr Gly Thr Asp Ile Val Arg Cys  
35 40 45

Ile Val Tyr Lys Phe Glu His Phe Gly Arg Lys Ile Ile Asp Arg Lys  
50 55 60

Lys Phe Glu Glu Gly Ile Phe Ser Asp Leu Arg Asn Leu Lys Cys Gly  
65 70 75 80

Ala Asp Ala Ile Leu Glu Pro Pro Arg Ser Glu Phe Leu Glu Phe Leu  
85 90 95

Phe Lys Asn Ser Cys Leu Arg Thr Gln Lys Lys Gln Lys Val Phe  
100 105 110

<210> 53  
<211> 111  
<212> PRT  
<213> *Kluyveromyces lactis*

<400> 53

Lys Phe Phe Leu Ala Thr Arg Pro Ala Asn Trp Gln Glu Asn Gln Val  
1 5 10 15

Ile Arg Arg Tyr Tyr Leu Ser Asn Asp Glu Gly Phe Val Ser Cys Val  
 20 25 30

Phe Trp Asn Asn Leu Tyr Tyr Ile Thr Gly Thr Asp Ile Val Arg Cys  
 35 40 45

Cys Ala Tyr Arg Met Gln Lys Phe Gly Arg Glu Ile Val Glu Arg Lys  
 50 55 60

Lys Phe Glu Glu Gly Ile Phe Ser Asp Leu Arg Asn Leu Lys Cys Gly  
 65 70 75 80

Ile Asp Ala Thr Leu Glu Lys Pro Lys Ser Asp Leu Leu Ala Phe Leu  
 85 90 95

Tyr Lys Asn Met Cys Leu Lys Thr Gln Lys Lys Gln Lys Val Phe  
 100 105 110

<210> 54  
 <211> 110  
 <212> PRT  
 <213> Aspergillus nidulans

<400> 54

Lys Tyr Phe Leu Leu Ser Ala Pro Val Asp Trp Gln Pro Asp Gln Leu  
 1 5 10 15

Ile Arg Arg Phe Leu Leu Pro Thr Gly Asp Tyr Ile Ser Cys Val Leu  
 20 25 30

Trp Ser Asn Leu Phe His Ile Ser Gly Thr Asp Ile Val Arg Cys Leu  
 35 40 45

Ala Phe Arg Phe Gln Ala Phe Gly Arg Pro Val Lys Asn Ser Lys Lys  
 50 55 60

Phe Glu Glu Gly Ile Phe Ser Asp Leu Arg Asn Leu Lys Ala Gly Thr  
 65 70 75 80

Asp Ala Thr Leu Glu Glu Pro Lys Ser Pro Phe Leu Asp Phe Leu Tyr  
 85 90 95

Lys Asn Asn Cys Ile Arg Thr Gln Lys Lys Gln Lys Val Phe  
 100 105 110

<210> 55  
 <211> 111  
 <212> PRT  
 <213> *Clavispora lusitaniae*

<400> 55

Lys Phe Phe Leu Ala Thr Ala Pro Ala Asn Trp Gln Glu Asn Gln Val  
 1 5 10 15

Ile Arg Arg Tyr Tyr Leu Asn Asn Asp Glu Gly Phe Val Ser Cys Val  
 20 25 30

Phe Trp Asn Asn Leu Tyr Phe Val Thr Gly Thr Asp Ile Val Arg Cys  
 35 40 45

Ile Leu Tyr Lys Phe Gln His Phe Gly Arg Thr Ile Thr Asp Arg Lys  
 50 55 60

Lys Phe Glu Glu Gly Ile Phe Ser Asp Leu Arg Asn Leu Lys Ala Gly  
 65 70 75 80

Ser Asp Ser Val Leu Glu Glu Pro Lys Ser Pro Phe Leu Glu Phe Leu  
 85 90 95

Tyr Asn Asn Ser Cys Leu Arg Thr Gln Lys Lys Gln Lys Val Phe  
 100 105 110

<210> 56  
 <211> 103  
 <212> PRT  
 <213> *Mucor circinelloides*

<400> 56

Tyr Ile Val Gln Glu Ile Met Glu Ala Asp Leu His Gln Ile Ile Arg  
 1 5 10 15

Ser Gly Gln Pro Leu Thr Asp Ala His Phe Gln Tyr Phe Val Tyr Gln  
 20 25 30

Ile Cys Arg Gly Leu Lys Tyr Ile His Ser Ala Asn Val Leu His Arg  
 35 40 45

Asp Leu Lys Pro Gly Lys Leu Arg Ile Asn Gly Ile Thr Gln Ile Thr  
 50 55 60

Glu Pro Lys Ile Cys Asp Phe Gly Leu Ala Arg Gly Tyr Ser Glu Asn  
 65 70 75 80

Asp Glu His Asn Val Gly Phe Met Thr Glu Tyr Val Ala Thr Arg Trp  
 85 90 95

Tyr Arg Ala Pro Glu Ile Met  
 100

<210> 57  
 <211> 100  
 <212> PRT  
 <213> Schizosaccharomyces pombe  
 <400> 57

Tyr Ile Tyr Glu Glu Leu Met Glu Ala Asp Leu Asn Ala Ile Ile Lys  
 1 5 10 15

Ser Gly Gln Pro Leu Thr Asp Ala His Phe Gln Ser Phe Ile Tyr Gln  
 20 25 30

Ile Leu Cys Gly Leu Lys Tyr Ile His Ser Ala Asn Val Ile His Arg  
 35 40 45

Asp Leu Lys Pro Gly Asn Leu Leu Val Asn Ala Asp Cys Glu Leu Lys  
 50 55 60

Ile Cys Asp Phe Gly Leu Ala Arg Gly Cys Ser Glu Asn Pro Glu Glu  
 65 70 75 80

Asn Pro Gly Phe Met Thr Glu Tyr Val Ala Thr Arg Trp Tyr Arg Ala  
 85 90 95

Pro Glu Ile Met  
 100

<210> 58  
 <211> 100  
 <212> PRT  
 <213> Candida albicans  
 <400> 58

Tyr Leu Tyr Glu Glu Leu Met Glu Cys Asp Met His Gln Ile Ile Arg  
 1 5 10 15

Ser Gly Gln Pro Leu Ser Asp Gln His Tyr Gln Ser Phe Ile Tyr Gln  
 20 25 30

Val Leu Cys Gly Leu Asn Phe Ile His Ser Ala Asp Val Leu His Arg  
 35 40 45

Asp Leu Lys Pro Gly Asn Leu Leu Val Asn Ala Asp Cys Glu Leu Lys  
 50 55 60

Ile Cys Asp Phe Gly Leu Ala Arg Gly Phe Ser Glu Asn Pro Asp Glu  
 65 70 75 80

Asn Ala Gly Phe Met Thr Glu Tyr Val Ala Thr Arg Trp Tyr Arg Ala  
 85 90 95

Pro Glu Ile Met  
 100

<210> 59  
 <211> 98  
 <212> PRT  
 <213> Fusarium oxysporum

<400> 59

Tyr Leu Ile Gln Glu Leu Met Glu Thr Asp Met His Arg Val Ile Arg  
 1 5 10 15

Thr Gln Asp Leu Ser Asp Asp His Cys Gln Tyr Phe Ile Tyr Gln Thr  
 20 25 30

Leu Arg Ala Leu Lys Ala Met His Ser Ala Asn Val Leu His Arg Asp  
 35 40 45

Leu Lys Pro Ser Asn Leu Leu Asn Ala Asn Cys Asp Leu Lys Val  
 50 55 60

Cys Asp Phe Gly Leu Ala Arg Ser Ala Ala Ser Gln Glu Asp Asn Ser  
 65 70 75 80

Gly Phe Met Thr Glu Tyr Val Ala Thr Arg Trp Tyr Arg Ala Pro Glu  
 85 90 95

Ile Met

<210> 60  
 <211> 100  
 <212> PRT  
 <213> *Saccharomyces cerevisiae*

<400> 60

Tyr Leu Tyr Glu Glu Leu Met Glu Cys Asp Met His Gln Ile Ile Lys  
 1 5 10 15

Ser Gly Gln Pro Leu Thr Asp Ala His Tyr Gln Ser Phe Thr Tyr Gln  
 20 25 30

Ile Leu Cys Gly Leu Lys Tyr Ile His Ser Ala Asp Val Leu His Arg  
 35 40 45

Asp Leu Lys Pro Gly Asn Leu Leu Val Asn Ala Asp Cys Gln Leu Lys  
 50 55 60

Ile Cys Asp Phe Gly Leu Ala Arg Gly Tyr Ser Glu Asn Pro Val Glu  
 65 70 75 80

Asn Ser Gln Phe Leu Thr Glu Tyr Val Ala Thr Arg Trp Tyr Arg Ala  
 85 90 95

Pro Glu Ile Met  
 100

<210> 61  
 <211> 98  
 <212> PRT  
 <213> *Candida albicans*

<400> 61

Tyr Leu Ile Gln Glu Leu Met Glu Thr Asp Leu His Arg Val Ile Arg  
 1 5 10 15

Thr Gln Asn Leu Ser Asp Asp His Ile Gln Tyr Phe Ile Tyr Gln Thr  
 20 25 30

Leu Arg Ala Leu Lys Ala Met His Ser Ala Asn Val Leu His Arg Asp  
 35 40 45

Leu Lys Pro Ser Asn Leu Leu Asn Ser Asn Cys Asp Leu Lys Ile

50

55

60

Cys Asp Phe Gly Leu Ala Arg Ser Ile Ala Ser Gln Glu Asp Asn Tyr  
 65 70 75 80

Gly Phe Met Thr Glu Tyr Val Ala Thr Arg Trp Tyr Arg Ala Pro Glu  
 85 90 95

Ile Met

<210> 62  
 <211> 14  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> consensus sequence

<220>  
 <221> misc\_feature  
 <222> (3)..(3)  
 <223> Xaa can be any amino acid

<220>  
 <221> misc\_feature  
 <222> (5)..(6)  
 <223> Xaa can be any amino acid

<220>  
 <221> misc\_feature  
 <222> (8)..(8)  
 <223> Xaa can be any amino acid

<220>  
 <221> misc\_feature  
 <222> (10)..(11)  
 <223> Xaa can be any amino acid

<400> 62

Ile Ser Xaa Pro Xaa Xaa Phe Xaa His Xaa Xaa His Val Gly  
 1 5 10

<210> 63  
 <211> 16  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> consensus sequence

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<220>
<221> misc_feature
<222> (3)..(3)
<223> Xaa can be any amino acid

<220>
<221> misc_feature
<222> (5)..(8)
<223> Xaa can be any amino acid

<220>
<221> misc_feature
<222> (10)..(10)
<223> Xaa can be any amino acid

<220>
<221> misc_feature
<222> (12)..(13)
<223> Xaa can be any amino acid

<400> 63

Ile Ser Xaa Pro Xaa Xaa Xaa Xaa Phe Xaa His Xaa Xaa His Val Gly
1           5           10          15

<210> 64
<211> 99
<212> PRT
<213> Artificial Sequence

<220>
<223> consensus sequence

<220>
<221> misc_feature
<222> (2)..(11)
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Xaa  
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Xaa  
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Phe Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Arg Glu Xaa Xaa Xaa  
1 5 10 15

Xaa  
20 25 30

Xaa  
35 40 45

Xaa  
50 55 60

Xaa  
65 70 75 80

Xaa  
85 90 95

Xaa Xaa Xaa Arg Asp Xaa Lys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
100 105 110

Cys